

DESCRIPTIONS OF THIRTY-THREE NEW SPECIES OF GASTROPODA
FROM THE PERSIAN GULF, GULF OF OMAN, AND NORTH
ARABIAN SEA.

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PLATES XI, XII.

IN continuation of the last paper upon the subject,¹ I now beg to offer descriptions of some more interesting Mollusca, mostly culled from the almost inexhaustible supply forwarded by Mr. F. W. Townsend from time to time, one or two being added from Bombay, where they were obtained either by the same collector or Mr. Alexander Abercrombie. The opportunity has also been embraced of refiguring two or three species, e.g. *Ethalia diotrepbes*, Melv. (*vide* Pl. XI, Figs. 17, 17a), which, till lately, was only known by the type, a poor and broken example. In this new delineation the elaborate sculpture and curious form of this little species are shown much more distinctly. *Argyropeza divina*, M. & St., too, is now figured from an adult example for comparison with *A. Schepmaniana*, described in this paper. And, thirdly, *Mangilia recta*, Smith, an interesting Persian Gulf species, has never till now been represented by any figure: this omission is now rectified.

COCCULINA SIMPLICIOR, n.sp. Pl. XII, Figs. 1, 1a.

C. testa parva, ovato-conica, compressa, lævi, albo-lactea, subpellucida, tenui, lateribus fere parallelis. utrinque rotundatis, planiusculis, superficie omni nitida, sub lente lineis obscuris incrementalibus concentricæ prædita, apice acuminato, nucleo lævi, perinconspicuo, sub lente globoso, vitreo, postice arcuato-inclinante, antice convexiore, intus alba, perlævi. Long. 2·75, lat. 1, alt. 1·50 mm.

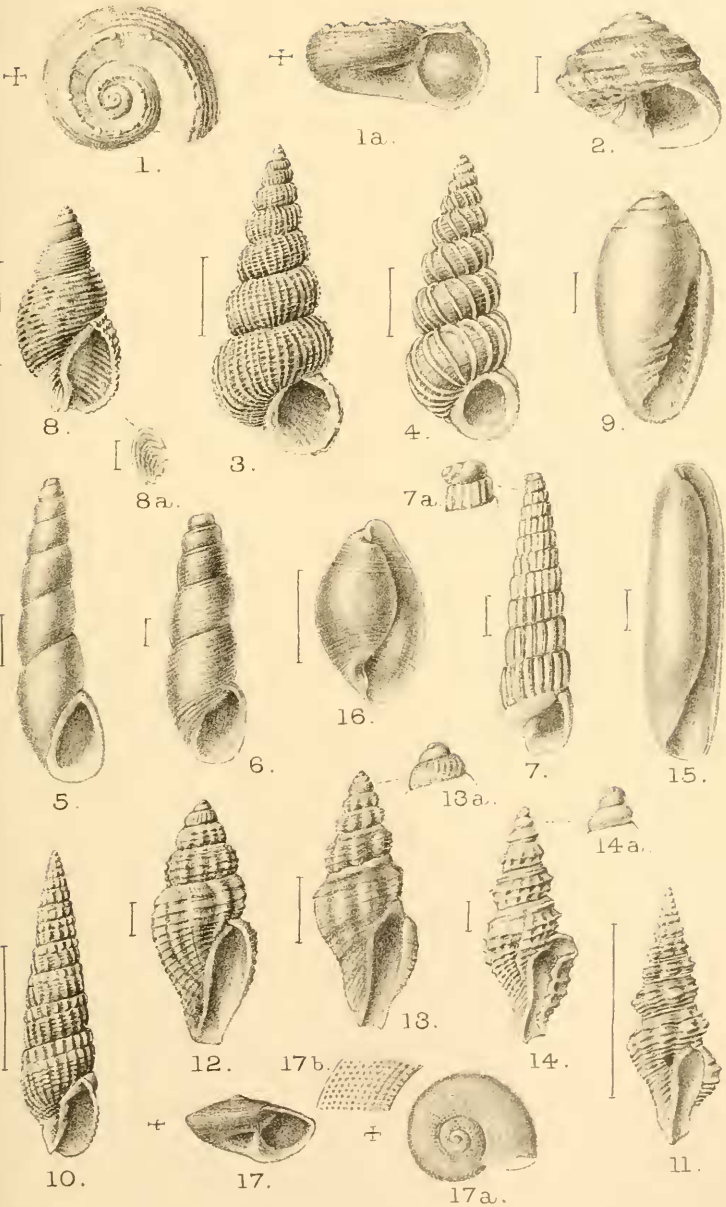
Hab.—Gulf of Oman. Lat. 24° 58' N.; long. 56° 54' E.; 156 fathoms, in shell-sand.

This is, curious to relate, the first *Cocculina* reported from these dredging results; and even this has occurred very rarely. All the examples seen are unfortunately dead, and consequently it has been impossible to examine the radula. It is a very minute, laterally parallelly-compressed species, perfectly smooth save for very microscopic concentric incremental growth-lines, whole substance papyraceous and most fragile. It is to be noted that Dr. Schepman² treats of no less than seven new species of this genus, mostly dredged in live condition, in the account of the Prosobranchiata of the *Siboga* Expedition; and Dr. Dall,³ the author of the genus, of three in the reports of the U.S. ss. *Albatross* cruise.

¹ Ann. Mag. Nat. Hist. (8), vol. vi, pp. 1-17, pls., 1910.

² Prosobr. Siboga Exped., pp. 17-22, pl. i, figs. 4-10; pl. viii, figs. 8-12, 1908.

³ Mull. Mus. Comp. Zool. Harvard, xliii, pp. 340, 341, pl. xvi, figs. 3-7, 1908.



A.H. Searle, del et lith.

GASTROPODA FROM THE PERSIAN GULF, etc.

CYCLOSTREMA QUINQUESTRIATUM, n.sp. Pl. XII, Figs. 2, 2a, 2b.

C. testa depresso-conoidea, minuta, alba, subpellucida, latè umbilicata, spira paullulum conica, anfractibus 4, quorum apex ipse parvus, nitidus, vitreus, cæteris ad suturas impressis, nitidis, undique lævissimis, ultimo ad peripheriam carinato, marginato, tenuissime spiraliter sub lente 5 striato, regione umbilicari haud profunda, apertura circulari, intus alba, margine columellari paullum calloso. Alt. 1, diam. 2 mm.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

A minute, smooth, glassy species, with certain Ethalioïd characteristics, such as the slight thickening of the umbilicar region, and consequent shallowness of the umbilicus itself. The body-whorl is keeled, five spiral striæ being here present on and about the periphery. Unlike any other *Cyclostrema* known to us in more than one way.

CYCLOSTREMA SPICULIGERUM, n.sp. Pl. XI, Figs. 1, 1a.

C. testa parva, depresso-discoidali, alba, profunde umbilicata, subhyalina, anfractibus 4, apicalibus duobus inclusis, omnibus apud suturas multum impressis et latè canaliculatis, regione infrasuturali planata, aliter usque ad umbilicum spiraliter tenuiliratis, lira superiore anfractus ultimi spiculis brevibus æquidistantibus decorata, apertura rotunda, peristomate tenui, continuo. Alt. 2, diam. 3 mm.

Hab.—Persian Gulf, on the Telegraph cable.

A very elegant, though small species, remarkable for the coronal of equidistant, abbreviated spicules which denote the uppermost, and most strongly developed of the spiral liræ in the two lowest whorls.

GIBBULA ERYTHRACME, n.sp. Pl. XI, Fig. 2.

C. testa solidula, incrassata, angustè umbilicata, conica, brunnea, anfractibus 5, quorum apicales duo læves, detriti, cæteris ad suturas et peripherialiter obscure nodulosis, ultimo ad peripheriam obtuse bicarinato, superficie omni irregulariter spiraliter striata, brunnea, ad basim circa umbilicum hic illic obscure maculata, tribus supernis anfractibus clare puniceo-depictis, apertura oblique ovata, peristomate incrassato. Alt. 5, diam. 5.15 mm.

Hab.—Bombay (A. Abercrombie).

A somewhat solid, brown, rudely constructed *Gibbula*, brightened by the intensely carmine hue of the three uppermost whorls. Allied to *G. Danieli*, Ad.

SCALA ALIZONÆ, n.sp. Pl. XI, Fig. 3.

Sc. testa delicatissima, eleganter fusiformi, parum rimata, anfractibus 11, quorum apicales 3-4 læves, pernitidi, læte castanei, quatuor his proximis castaneo-suffusis, tribus ultimis solum puris, candidis, anfractibus omnibus rotundatis, apud suturas profunde impressis, læte et artissime longitudinaliter fimbriato-costellatis, costis vel lamellis papyraceis, undique spiraliter decussatim liratis, interstitiis subquadratis, numero lamellarum ultimi anfractus circiter 36, apertura rotunda, peristomate continuo, margine columellari lato, nitente. Alt. 11, diam. 4.75 mm.

Hab.—Persian Gulf, Mussandam, 55 fathoms.

A most exquisite shell, surpassing, we think, even the imposing *S. fimbriolata*, Melv., from the same seas, in elegant delicacy and intricate network pattern. Alliance may be noted with the coarser *S. thelateria*, M. & St., also from the same region, in the chestnut coloration of the upper whorls, and, to some extent, in the spiral liration. Several examples have occurred, by far the largest and finest being that taken as the type, and now figured. It is named in honour of Miss Alizon Townsend, daughter of its discoverer.

SCALA ASPICIENDA, n.sp. Pl. XII, Fig. 3.

Sc. testa oblongo-fusiformi, delicatissima, papyracea, anguste rimata, candida, anfractibus ad 11, inclusis apicalibus 3-4, parvis, nitidis, lævibus, pellucidis, cæteris ventricosulis, apud suturas impressis, undique densilamellatis, lamellis arcuatis præcipue anfractus apud supernos (numero antepenultimi anfractus circiter 50), spiraliter læte arcte hratulis, interstitiis sub lente longitudinaliter tenuissime striatis, apertura rotunda, labro in specimine unico effracto, imperfecto, paulum effuso, ad marginem columellarem triangulatum reflexo. Alt. 15, diam. 6.75 mm.

Hab.—Arabian Sea, 60 miles west of Bombay, at 40 fathoms.

One of the most delicately-formed of the genus: pure white, papyraceous in texture, very closely lamellate, lamellæ smooth, thin, spirally closely lirated, the interstices between the lirations microscopically finely striolate. Unfortunately the only two specimens are both broken at the mouth, reducing thus both their size and the power of describing the outer lip, which we should conjecture would be very like that of the nearest ally, *S. dubia*, Sowb., from the Moluccas and N. Australia. That species is much of the same form, outer lip roundly effuse, thin, but in the new form now described the lamellæ are far closer and more numerous on all the whorls, more especially the upper, the whorls also hardly being so tumid, and increasing less rapidly than in the older form.

SCALA IDALIA, n.sp. Pl. XII, Fig. 4.

S. testa parva, sed solidula, ovato-fusiformi, alba, anfractibus 8, quorum apicales 3 læves, vitrei, cæteris arcte lamellatis, lamellis lævibus, albis, crassis, numero anfractum apud ultimum 12, interstitiis spiraliter rudiliratis, apertura rotunda, peristomate continuo, percrasso, præcipue regionem apud columellarem fere calloso. Long. 4, diam. 1.55 mm.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

A small but decided species, both as regards form and appearance of being adult. The lamellæ are thick, proportionately speaking, and smooth, with the interstitial spaces rudely lirulate. Peristome continuous and extremely incrassate, particularly towards the base of the columellar region, where this thickening is very marked. Slightly allied to *S. thelateria*, M. & St., which is, however, a more delicate species, or *S. deifca*, which is likewise more delicate, larger, and elongate.

(Idalia, one of the names of Aphrodite.)

SCALA PASIPHAËS, n.sp. Pl. XI, Fig. 4.

Sc. testa eleganter fusiformi, solidula, albo straminea, anfractibus ad 10, quorum apicales parvi, læves, cæteris rotundatis, ventricosulis, ad suturas impressis, regulariter lamellatis, lamellis crassiusculis, lævibus, infra suturas nequaquam angulatis, interstitiis æqualiter et spiraliter rudi-striatulis, striis distantibus, paucis, apertura rotunda, peristomate incrassato, continuo. Alt. 10, diam. 4.50 mm.

Hab.—Persian Gulf, Bushire.

An elegant species, of fairly normal appearance, proportionately solid, straw-coloured, with rounded tumid whorls, the lamellæ white, smooth, incrassate, not at all angular above, the interstices between the lamellæ coarsely spirally striate, striæ somewhat distant.

I am very grateful to M. de Boury for his kind opinion as to the distinctness of this species. I follow him in continuing to use the familiar word 'Scala', despite the fact that the followers of the rigid rule of priority, including myself in a previous paper, have superseded it by the Boltenian name *Epitonium*. I venture also to express the just hope that this rule may, by common consensus, some day be to some extent so widened that names which have been in constant use, unchallenged till lately, for fifty to a hundred years or more, be allowed to stand.

(*παισιφᾶης*, glittering, conspicuous.)

TRICHOTROPIS CRASSICOSTATA, n.sp. Pl. XII, Fig. 5.

T. testa perparva, breviter fusiformi, imperforata, alba, in specimenibus omnibus visis epidermide denudata, anfractibus ad 4½, quorum apicales 2 magni, vitrei, globulares, lævissimi, ad apicem ipsum planati, cæteris longitudinaliter costulatis, costis percrassis, paucis, anfractûs ultimi ad 10, undique spiraliter rudiliratis, liris distantibus, paucis, interstitiis sub lente spiraliter striatulis, ad basim concentricè liratis, apertura ovato-quadratulata, alba, peristomate tenui, canali brevissime rostrato, columella fere recta. Alt. 4, diam. 2 mm.

Hab.—Gulf of Oman. Lat. 24° 58' N.; long. 56° 54' E.; 156 fathoms, shell-sand.

This minute *Trichotrophis* occurred in bleached condition only in the dredging just recorded above, in company with *T. Townsendi*, M. & St.; this last, however, has been fortunately obtained in other localities in good condition. The two are somewhat similar, almost indeed identical in form and lip characters, but differing in the character of the longitudinal ribs, those of the species now before us being much fewer, more incrassate, and rudely formed. It is possible that it may be a local variety of *T. Townsendi*, but we hardly think this will prove to be the case. It has not yet been found to occur in any other of the recorded localities for the earlier described species.¹

LIPPISTES TROPLEUM, n.sp. Pl. XII, Fig. 6.

L. testa parva, anguste umbilicata, ovato-fusiformi, delicata, alba, vel pallide straminea, anfractibus 6½, quorum 2½ apicales, nitidi,

¹ Proc. Zool. Soc. Lond., June, 1901, p. 360, pl. xxii, fig. 7.

perlaeves, apice ipso planato, secundo anfractu globulari, tumescente, candido, cæteris quatuor apud suturas multum impressis, supernis undique carinis duabus centralibus acutis præditis, simul ac tertia carinula supra, juxta suturas, ultimo ad medium tribus carinis ornato, quarta carina ad basim excavatam, circa umbilicem, apertura fere rotunda, labro tenui, tridentato, canali brevi, columella fere recta. Long. 6, lat. 3 mm.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

The type of this genus, formerly known as *Separatista*, Gray, is the *L. cornu*, Gmelin. It was established by Montfort in 1810, and has priority of thirty-seven years. Our new species is a beautiful and delicate shell, much impressed suturally, very acutely bi- or tricarinate spirally, with swollen and somewhat flattened polished white nucleus. Some superficial likeness to the genus *Mathilda*, Semper, is noticeable, but in this last genus the nuclear whorls are heterostrophe. The nearest ally to the *L. tropæum* is undoubtedly the smaller *L. zodiacus*, Hedley, from Mast Head Reef, North Queensland, where it was dredged at 17–20 fathoms off Mast Head.¹ There are about seven species of this genus known at the present time, of which four are found in Australian seas, and this is the third discovered to exist in the Persian Gulf region.

RISSEA (AMPHITHALAMUS) ALPHESIBEI, n.sp. Pl. XI, Fig. 5.

A. testa fusiformi, sæpe paullum incurva vel inæquali, albo-lactea, tenui, subpellucida, apice planato, lævigata, anfractibus, duobus inclusis apicalibus, ad 8, ventricosulis, apud suturas impressis, undique delieatissime spiraliter striatulis, apertura ovata, peristomate paullum incrassato, fere continuo, margine columellari simplice, obliqua. Alt. 5, diam. 2 mm.

Hab.—Persian Gulf, Henjam Island, and Arabian Sea, Karachi.

A species large for its genus, and sometimes incurved, white, slightly pellucid, beautifully spirally striolate, of which not very many examples have yet come to light. It is named after the 'Pastor Alpheisibæus'—in fanciful allusion to his staff or crook, which this elongate, incurved species may be supposed to resemble in form.

RISSEA (AMPHITHALAMUS) ARISTÆI, n.sp. Pl. XI, Fig. 6.

A. testa minuta, alba, fusiformi, subpellucida, ad apicem late planata, vitrea, anfractibus, apicalibus 2 inclusis, ad 6, suturaliter multum impressis, undique spiraliter fortiter sulcato-striatis, striis regularibus, arcatis, conspicuis, apertura ovata, peristomate fere continuo, haud multum incrassato, columella obliqua. Alt. 3.50, diam. 1 mm.

Hab.—Bombay (A. Abererombie).

A very small, but well-defined species. Conspicuous for its regular, strong, and close sulco-striation, the whorls well impressed suturally, apex smooth, much and broadly flattened, swollen below, and vitreous. (Aristæus, a shepherd, cf. Virgil, G. iv, 317).

¹ Hedley, Proc. Linn. Soc. N.S.W., vol. xxxii, p. 502, pl. xviii, fig. 30, 1907; also loc. cit., vol. xxvii, p. 23, 1902.

RISSEA (AMPHITHALAMUS) DENSILABRUM, n.sp. Pl. XII, Figs. 8, 8a.

R. testa parva, solidula, pallide straminea vel cinereo albescente, imperforata, anfractibus $5\frac{1}{2}$, quorum $2\frac{1}{2}$ apicales, apice ipso depresso, secundo anfractu vitreo, globoso, cæteris ad suturas paullum impressis, undique spiraliter arete liratis, liris pro parte crassiusculis, interstitiis sub lente interdum planatis, interdum subalveolatis, apertura ovata regione labrali dorsaliter incrassata, labro fere continuo, columella obliqua, ad basim crassiore. Long. 2.75, lat. 1.25 mm.

Hab.—Karachi.

A small Rissoïd, which we refer to *Amphithalamus*, Carp. (= *Scrobs*, Wats.), though there are leanings towards the section *Onoba*, H. & A. Ad. The transverse liræ are close and coarse for the size of the shell, the region of the outer lip being, dorsally, considerably thickened and incrassate. The species occurs generally, but locally, along the Mekran Coast, but more particularly in the neighbourhood of Karachi, but I cannot find that it has been described previously.

RISSEINA TIBICEN, n.sp. Pl. XII, Fig. 9.

R. testa attenuato-fusififormi, apud basim latiore, nitida, solidula, lævi, alba, anfractibus 9, quorum apicales $2\frac{1}{2}$, perlæves, subpellucidi, bulbosi, cæteris longitudinaliter lævicostatis, costis anfractûs ultimi 9–10, usque ad basim ipsam extensis, superficie interstitiali sub lente undique spiraliter tenuissime striata, apertura rotundo-ovata, peristomate incrassato, albo, nitido, columella paullum exeavata. Long. 5.75, lat. 1.75 mm.

Hab.—Persian Gulf, Mussandam, 55 fathoms.

This select, white, shining, somewhat pellucid *Rissoïna*, belonging to the typical section of the genus, is somewhat isosceles-shaped, attenuately fusiform, neatly and smoothly ribbed, the interstitial spaces with a high power appearing uniformly spirally striolate. It may, perhaps, be compared in form with *R. terebra*, Garrett, from Fiji, but the character of the ribs, ornamentation, etc., is altogether diverse. Except for size this species is much like the type of the genus *Stiva*,¹ Hedley, but *S. ferruginea* is 18 mm. in length, from Wollongong, Australia.

(Tibicen, a piper.)

FOSSARUS APTUS, n.sp. Pl. XII, Fig. 7.

F. testa ovato-rotunda, conica, albo-straminea, delicata, anguste sed profunde umbilicata, anfractibus 5, quorum apicales 2 castanei, parvi, simplices, cæteris gradatulis, penultimo spiraliter tri-, ultimo quinque carinulato, interstitiis spiraliter tenuistriatis, apertura lunulata, intus pallide straminea, labro tenui; extus 6-denticulata, margine columellari margine fere recto. Alt. 3, diam. 3 mm.

Hab.—Persian Gulf, Mussandam, 55 fathoms.

A very small species, with elaborate sculpture, as above described, 5-keeled spirally on the body-whorl, with fine spiral intermediate

¹ Proc. Linn. Soc. N.S. Wales, 1904, p. 192, pl. ix, figs. 23–5.

interstitial lines intervening. Umbilicus deep but narrow, outer lip thin, columellar margin fairly straight. We know no very near comparable species. It may have some Vanikoroïd characters about it; but I am convinced it is not of that alliance at all, the mouth and peristomal characters are entirely that of *Fossarus*.

MATHILDA TELAMONIA, n.sp. Pl. XII, Fig. 12.

M. testa pereleganter attenuato fusiformi, pallide straminea, delicata, anfractibus 15, quorum apicales duo heterostrophi, albi, rugosi, semialveolati, cæteris similaribus inter se, undique ad suturas impressis, 4 carinatis, carina principali et magis conspicua centrali, duabus inferioribus utrinque dispositis, quarta inferiore infra, juxta suturas: interstitiis bene alveolatis, alveis interdum profundis, ultimo infra peripheriam usque ad basim liris quinque spiralibus, interstitiis subalveatis, præditis, apertura fere rotunda, labro tenui, extus denticulato, columella recta. Long. 13, lat. 3 mm.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

Perhaps the most graceful *Mathilda* yet discovered; perfectly symmetrical and uniform in all its whorls. It comes near to *M. curystia*, Melv., but differs in the far greater prominence of its central keel.

(τελαυίερ, a belt, or zone.)

ARGYROPEZA SCHEPMANIANA, n.sp. Pl. XII, Fig. 11.

A. testa minuta, oblongo-fusiformi, nitida, albo-straminea, anfractibus ad 10, quorum $3\frac{1}{2}$ apicales, apice ipso rufescente, parvo, lævi, duobus proximis spiraliter unicarinatis, cæteris apud suturas multum impressis, nitidis, tribus nodularum acutarum ordinibus spiraliter præditis, quorum prima infra, juxta suturas, minus conspicua, interstitiis pernitidis, lævibus, ultimo versus basim spiraliter conspicue carinulato, apertura ovata, labro tenui, subangulato, columella paullum excavata, ad basim crassiore, prolongatula. Long. 3, diam. 1 mm.

Hab.—Mekran Coast, Charbar, 40 fathoms.

This little species, the third of the genus now discovered, is very similar in actual appearance, form, coloration, and glazed aspect of whorls, to *A. divina*, M. & St.,¹ which has been found during the past few years to occur commonly in deep water, especially at the well-known station in the Gulf of Oman at 156 fathoms so often quoted. From this, however, the new form differs in the possession of three spiral rows of acute nodules or gemmæ around the whorls, instead of two only, and likewise by its uniformly smaller size. It is very uncommon, for we have not observed half a dozen examples, it usually occurring singly, while *A. divina* is gregarious. As this little species has only been delineated in young condition, we think the opportunity a good one for a figure of the adult shell (Pl. XII, Fig. 10). Its extension of range is much increased by the researches

¹ Proc. Zool. Soc. Lond., June, 1901, p. 372, pl. xxi, fig. 3, sp. juv.

of the 'Siboga' Expedition,¹ when it was found both in the Molucca Passage and off the north coast of Sumbawa, in both instances in deep water. The operculum of this genus is found to be sub-oval, paucispiral, with central nucleus, according to the same author.

EULIMELLA EGERIA, n.sp. Pl. XII, Fig. 14.

E. testa minuta, attenuato-fusiforini, alba, delicata, tenuissima, anfractibus $9\frac{1}{2}$, *quorum apicales* $2\frac{1}{2}$ *inverso-heterostrophii, pervitrei, nitidi, globulares, cæteris ad suturas impressis, ventricosulis, lævigatis, hic illic lineis longitudinaliter incrementalibus notandis, paullum nitidis, ultimo anfractu magnitudine penultimum et antepenultimum exæquante, obscure ad medium rufizonato, apertura ovata, labro tenui, columella obscurissime plicata. Long. 4, lat. 1 mm.*

Hab.—Pasni, Persian Gulf, 40 fathoms.

A small, delicate, smooth, but not very shining shell, thin in texture, with inverse-heterostrophe vitreous apex of $2\frac{1}{2}$ whorls, the remainder being smoothish, the penultimate and body-whorls are obscurely rufous banded centrally, mouth oval, peristome thin, columella indistinctly uniplicate. The addition of this species raises the number of *Eulimella* found in the Persian Gulf region to eight. Of these one is *E. nitidissima* (Mont.), a European and British species, while the remainder are all endemic, so far as is at present known.

TURBONILLA (NISITURRIS) MATERNA, n.sp. Pl. XII, Fig. 13.

T. testa elegantissime attenuata, perlonga, læte vitreo-lactea, delicata, anfractibus ad 17, quorum apicales tres laterali-heterostrophii, pervitrei, cæteris apud suturas impressis, ventricosulis, arcte longitudinaliter costulatis, costis lævibus, interdum, sed raro, hic illic varicosis, interstitiis spiraliter sub lente striatis, striis distantibus, ultimo anfractu infra medium usque ad basim lævi, costis evanidis, apertura fere rotunda, labro interdum crassiusculo, interdum tenuiore, paullulum effuso, columella simplice, recta. Long. 8, lat. 1.15 mm., sp. maj.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

One of the most truly refined and beautiful of the many species of *Turbonilla* which have yet been discovered in this prolific region. The form is most graceful, attenuate, and lengthened; we have taken, indeed, as the type, a specimen possessing seventeen whorls; more usually examples occur with fourteen to fifteen. The nuclear whorls are laterally heterostrophe, so that we should place them in the section *Nisiturris*, Dall & Bartsch, the numerous body-whorls being uniformly ornamented with smooth, proportionately thickened smooth ribs, of which very occasionally one is varixed, while the interstices are spirally distantly striate. Mouth roundish, outer lip slightly effuse, sometimes thickened, columella straight. It was found locally frequent in shell-sand dredged at the depth and locality given above.

¹ M. M. Schepman, *Prosobranchiata of the Siboga Expedition*, pp. 169, 170. pl. xv, fig. 11; pl. xii, fig. 1.

TURBOXILLA (*NISITURRIS*) *VALLATA*, n.sp. Pl. XI, Fig. 7.

T. testa parva, attenuato-fusiformi, alba, delicata, haud nitente, anfractibus 13, quorum apicales tres omnino revoluti, heterostrophi, albo-vitrei, levissimi, cæteris decem ad suturas impressis et vallatis, undique costatis, costis rectis, incrassatis, numero anfractum apud ultimum 17-18, interstitiis levibus, ultimo ad basim fere recto, costis infra medium evanidis, apertura squarrose ovata, labro paullum incrassato, recto, columella subplicata. Long. 4.50, lat. 1.15 mm.

Hab.—Persian Gulf, Koweit, 10 fathoms.

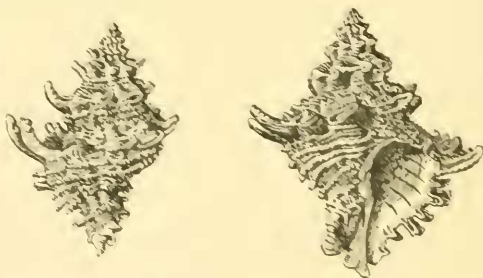
Resembling *T. recticostata*, Melv., from the same region in its straight longitudinal ribs, but differing in the gradate and flattened upper portion of each whorl.

(Vallatus, furnished with ramparts.)

LATIANXIS *PRINCEPS*, n.sp. Pl. XI, Fig. 15.

L. testa oblongo-fusiformi, anguste perforata, alba vel straminea, interdum pallide hyacinthino-tincta, anfractibus 7-8, quorum apicales 2 minuti, vitrei, tribus his proximis spiraliter crassi-nodulosis, ad medium angulatis, duobus ultimis ad medium late et regulariter triangulatis spinosis, spinis recurvis, frondosis, squamatis, ultimo anfractibus omni superficie tenuistriata, et, infra peripheriam usque ad basim spiraliter septem squamarum ordinibus imbricatis ornata, apertura ovata, alba, labro tenui, extus multidentato, columella fere recta, canali paullum recurvo. Long. 37, lat. 25 mm.

Hab.—Persian Gulf, off the Telegraph cable at 50 fathoms, and near Mussandam, 55 fathoms.



Originally considered to be *L. diadema*, Sowb., this very elegant species differs in form of aperture and general contour considerably, being, indeed, nearer to the more recently described *L. armatus*, Sowb., which has much finer sculpture upon the body-whorl, the circle of spines likewise being larger proportionately. I am indebted to Mr. Edgar Smith for pointing out these differences upon comparison with the actual types, and for his opinion thereupon. These three species *diadema*, *armatus*, and *princeps* may by some be considered forms of one protean species, but they seem constant to their types, and this fact points to the probability of their all being worthy of specific recognition.

I may add that *L. Siboga*, Schepm., a recently described¹ and very beautiful species from Pulu Kaniungan Reef, East Indies, bears some similarity to *L. princeps*, but in this species the spines are much longer and less triangular basally, and the canal is more produced.

Since writing the above description, several fine specimens have arrived, two of which are now reproduced, as they exhibit the spinal ornamentation very satisfactorily. Having also acquired a good specimen of *L. armatus*, I have been able to confirm my previously conceived opinion as to its distinctness from any form of *princeps*.

BULLIA (*LEIODOMUS*) *TOWNSENDI*, n.sp. Pl. XI, Figs. 8, 8a.

B. testa mediocri, ovato-fusiformi, solidula, rufo-purpurascente, anfractibus 7, quorum apicales $2\frac{1}{2}$ læves, vitrei, parvi, cæteris ventricosulis, supernis parvis, ultimo effuso, magno, undique spiraliter arcte liratis, liris crassiusculis, supernis ad anfractus plus minus simplicibus, ultimo liris granulis oblongis decoratis, et hic illic longitudinaliter sed irregulariter brunneo-sparso vel tessellato, apertura ovata, intus albi-striolata, labro subeffuso, extus crenulato, columella excavata, canali brevi, operculo rufocorneo, multi denticulato, nucleo laterali. Long. 18, lat. 6 mm.

Hab.—Mekran Coast, Gulf of Oman; near Charbar.

A very interesting form, at first considered to be, perhaps, the young of some other species, but it is evidently distinct from *B. Kurrachensis*, Sowb., its nearest ally in these waters. Several specimens have now been obtained at different times, all much of the same size. The sculpture of the last whorl, as regards the spiral granulate lirulæ, is very characteristic, these granules being placed obliquely impinging upon each other, all oblong in shape, smooth, shining, and very regular. The coloration of the shell is peculiar, being purplish or greyish fuscous. The operculum is like that of *Nassa*, or *Bullia* proper, as opposed to *Dorsanum*, denticulate with lateral nucleus. We dedicate this species to Mr. F. W. Townsend, who has brought to light in these seas more Mollusca of the highest interest than any of his predecessors collectively.

TRITONIDEA CASTANEA, n.sp. Pl. XII, Fig. 16.

T. testa mediocri⁴, fusiformi, solida, castaneo fulva, anfractibus ad 8, quorum apicales duo vitrei, globosi, cæteris ad suturas impressis, ventricosulis, undique longitudinaliter crassicosatis, et spiraliter crassiliratis, costis latis, subrotundatis, liris supra costas magis prominulis, interstitiis inter liras tenuissime spiraliter bi- vel tri-striatis, apertura ovata, intus alba, labro haud multum incrassato, columella fere recta, infra subnodosa, canali brevi. Long. 14, lat. 6 mm.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

The nearest ally seems to be *T. obliquicostata*, Reeve, from the Philippines, and of which I also possess a specimen from Karotonga,

¹ M. M. Schepman, *Prosobranchiata of the Siboga Expedition*, p. 359, pl. xxi, fig. 8, 1911.

formerly in the collection of Mr. C. P. Gloyne. The ribs are straight in the present species, and the whorls not so tumid.

MARGINELLA (GIBBERULA) REPLICATA, n.sp. Pl. XI, Fig. 9.

M. testa parva, crassa, ovato-elliptica, albescente, anfractibus 5, lævibus, quorum apicales duo minuti, ultimo cæteros multo magis quam decies superante, oblongo, apertura angusta, ad basim latiore, labro incrassato, intus multidenticulato, columella quatuor-plicata, plicis extensis. Long. 5.25, lat. 2.50 mm.

Hab.—Persian Gulf, on the Telegraph cable at 48 fathoms, 1906.

A *Marginella* of simple build, allied to other *Gibberulae*, e.g. *mazagonica*, *Shoplandi*, etc., from the same seas, but differing in several points. Firstly in form, the present species being roundly oval elliptic; secondly in the strong plication, extended over the greater portion of the frontal surface in an oblique direction; thirdly in the multidenticulate inner edge of the outer lip. *M. replicata* is, so far, rare, but few examples having occurred, and these dead and pierced by carnivorous molluses in every instance. The figure is taken from a combination of two or three examples, each perfect (or imperfect) in some particular.

TREBURA AMBROSIA, n.sp. Pl. XI, Fig. 10.

T. testa attenuato-fusiformi, brunneo purpurascete, vel cinerea, solidula, rugosa, anfractibus 12–13, quorum apex ipse parvus, vitreus, globosus, cæteris infra suturas imprimis spiraliter nodulosus, nitidis, glabris, deinde unisulcatis, simul ac ad basim anfractuum longitudinaliter costoso-plicatis, plicis rudibus, spiraliter crassiliratis, anfractu ultimo bino spirali nodularum ordine contiguo, prædito, apertura ovata, labro tenui, columella obliqua. Long. 16, lat. 4.50 mm.

Hab.—Mekran Coast, Charbar, 5 fathoms, sand.

Near *T. cognata* of Smith, to whom I am indebted for calling my attention to this species. These two, with several others, belong to the alliance of *T. variegata*, which is of wide distribution in the Eastern tropics.

DRILLIA EUCHROËS, n.sp. Pl. XI, Fig. 11.

D. testa eleganter fusiformi, attenuata, solidula, læte straminea, liris castaneis et ochro-nigrescentibus spiraliter alternatim decorata, anfractibus ad 11, quorum apicales tres læves, parvi, vitrei, apice ipso bulboso, cæteris ad suturas impressis, ad medium angulatis, undique longitudinaliter costatis, costis infra suturas evanidis, ultimo anfractu apud basim prolongato, regulariter infra peripheriam multilirato, apertura oblonga, labro tenui, sinu perobscuro, canali producto, margine columellari recto. Long. 22.75, lat. 7 mm.

Hab.—Persian Gulf, on the Telegraph cable, September 2, 1906.

A brightly coloured species, in shape attenuate-fusiform, eleven whorled, with apex small, vitreous, bulbous, the remainder suturally considerably impressed, straw-coloured with closely ranged spiral liræ of dark chestnut alternating with ochreous; in the centre of each whorl is a white spiral band, bringing into prominence the

strongly noded ribs of the angle of the whorl. The mouth is oblong, outer lip thin; perhaps neither specimen we have seen is full grown, as the sinus is so very obscurely marked. Of much the same form as *D. philotima*, Melv., from the same seas, but with more produced canal. It resembles a small *Latirus*, or even a *Fasciolaria* in miniature, but, of course, there is no columellar plication.

(εὐχρόης, well-coloured, goodly.)

MANGILIA ANARITHMA, n.sp. Pl. XI, Fig. 12.

M. testa parva, ovato-fusiformi, pallide straminea, nequâquam angulata, anfractibus ad 6, quorum duo apicales læves, globulosi, tertius arcute longitudinaliter liratus, cæteris tribus longitudinaliter pauci-costatis, costis irregularibus, incrassatis, spiraliter rudiliratis, liris distantibus supra, versus basim magis numerosis, apertura oblonga, labro tenui, sinu fere evanido, canali brevi, lato. Alt. 4.25, lat. 1.50 mm.

Hab.—Mekran Coast, Charbar, 40 fathoms.

Of the same alliance as *M. phæa*, M. & St., which differs in its swarthy brown hue, and in its rarer spiral liræ, particularly on the body-whorl.

(ἀναριθμὸς, numerous, from its local frequency.)

MANGILIA RECTA, Smith. Pl. XI, Figs. 13, 13a.

Pleurotoma (Mangilia?) recta, E. A. Smith, Ann. Mag. Nat. Hist., October, 1888, p. 310.

Hab.—Mekran Coast, Charbar, 7 fathoms (Townsend); Persian Gulf (Colonel Pelly in Mus. Brit.).

A select species of a curious waxen grey or olive hue, thickly longitudinally ribbed, and obscurely but closely transversely striolate. The nuclear whorls, three in number, are glossy and smooth; the next beautifully longitudinally obliquely ribbeted and decussate, in a similar way to *M. gracilentæ*, Reeve, *Portia*, Smith, and others of a very closely allied confraternity. This species, however, *M. recta*, seems to possess peculiar characteristics in its facies, and to be a very good species.

MANGILIA CLARISCUPTA, n.sp. Pl. XI, Fig. 14.

M. testa parva, delicata, alba, fusiformi, rugosa, anfractibus ad 6, quorum apicales duo globosi, læves, tertius lævis, unicarinatus, cæteris ad mediam peripheriam angulatis, longitudinaliter nodosi-costatis, costis crassiusculis, infra suturas superficie planata, eleganter tornatula, ultimo versus basim multum attenuato, multilirato, apertura lata, sinu lato, labro incrassato, columella fere recta. Alt. 4, lat. 1.20 mm.

Hab.—Mekran Coast, Gulf of Oman, Charbar, 40 to 150 fathoms.

A conspicuously sculptured *Mangilia*, which would claim close kinship with *M. Smithii*, Nevill,¹ from Ceylon. It seems to differ in being slightly larger, with one or two tornate spiral keels just below

¹ G. & H. Nevill, Journ. Asiatic Soc. Bengal, 1875, p. 88, pl. viii, fig. 13.

the sutures of each whorl, this space being quite plain and free from any sculpture in *M. Smithii*.

CLATHURELLA DITYLOTA, n.sp. Pl. XII, Fig. 17.

M. testa fusiformi, solidula, pallide albo-cinerea, vel carneola, anfractibus 9, apicalibus duobus globulosis subvitreis, lævissimis, inclusis, tertio et interdum quarto anfractu simpliciter spiraliter carinulatis, aliter lævibus, cæteris longitudinaliter crassicostatis, et spiraliter bicarinatis, ad juncturas costarum acutigemmatis, ultimo anfractu tricarinato, simul ac usque ad basim 8-10, spiraliter liratulo, numero costarum ultimum apud anfractum circa 9-10, undique apud suturas impressis, infra, juxta suturas rufo vel castaneo tinctis, simul ac versus basim, apertura ovata, labro paullum expanso, incrassato, sinu perlato, albo, rufimarginato, margine columellari buplicato vel bituberculato. Long. 7, lat. 2 mm.

Hab.—Persian Gulf, Koweit, 10 fathoms; Bunder Abbas, 10 fathoms (April 24, 1907); Henjam Island, 5-10 fathoms.

A well-known species, hitherto named *C. Polynesiensis*, Reeve, but it does not agree with the specimens so named from Polynesia, New Caledonia, Lifu, and other Eastern localities. Some examples exist in the British Museum (Nat. Hist.) labelled '*Borsonia*, sp.', the chief characteristic of this sub-genus being displayed in the typical fossil described in 1846 by Bellardi,¹ as *B. prima*, where midway on the columella two or more plications, superficial or otherwise, appeared, being probably a continuation, at right angles, or in an ascending line, of the spiral liræ round the base of the body-whorl. *B. nigro-cincta*, Mont., is a typical recent representative of this section, which seems to appertain on one hand to *Glyphostoma*, on the other to *Mangilia*. In the present state of uncertainty as to the limitations of these genera (or perhaps sections of one vast genus), we prefer considering the species now under discussion as a *Mangilia* for the present. We have received it also from Townsville, Queensland (A. U. Henn). Its principal allies appear to be *Clathurella rava*, Hinds (Conch. Icon., *Pleurotoma*, pl. xxviii, fig. 250); *Grayi*, Reeve (id., pl. xxvi, fig. 232); *vultuosa*, Reeve (id., pl. xxx, fig. 273); and, perhaps, *scalarina*, Desh. (Conch. I. Réunion, 1863, p. 109).

(*δὲς*, τὸ λωτος, with two tubercles or plicæ.)

PLEUROTOMELLA EVADNE, n.sp. Pl. XII, Fig. 18.

Pl. testa parva, multum abbreviata, obesa, crassiuscula, alba, anfractibus ad 6, quorum apicales tres pulchre decussati sub lente, apice ipso lævi, globoso, cæteris tribus ad suturas impressis, tumidis, longitudinaliter obliqui-costatis. costis crassis, numero anfractum apud ultimum circa 18, spiraliter liratis, liris haud numerosis, rudibus, interstitiis squarrose alveolatis, ultimo a medio ad basim simpliciter transversim lirato, labro paullum expanso, apertura oblonga, intus alba, canali brevi. Long. 4, lat. 1.55 mm.

Hab.—Persian Gulf, Mussandam, at 55 fathoms.

¹ Bull. Soc. Géol. France, vol. x, p. 30.